

Trend Study 16B-15-99

Study site name: Ford Ridge .

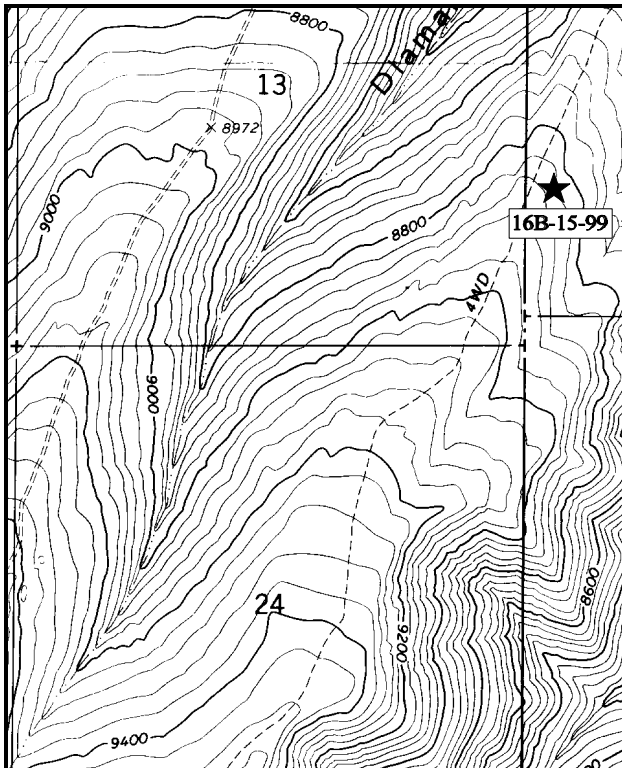
Range type: Big Sagebrush - Grass .

Compass bearing: frequency baseline 198°M.

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

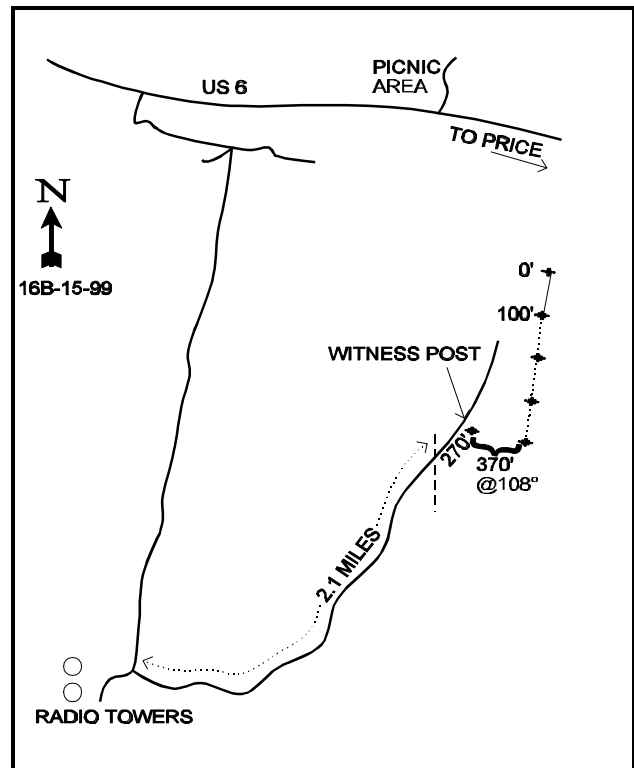
LOCATION DESCRIPTION

Take US 6 north from Price to the top of Price Canyon. About one mile NW of the picnic area, turn left towards Bristlecone BSA camp and the radio towers. Go 0.7 miles to a 3-way fork. Take the center road and go up the ridge 5.15 miles. Below the towers, turn left onto a rough road. Follow this road 2.1 miles to a fence. Continue 100 yards past the fence to a witness post on the right side of the road. From the witness post, walk approximately 125 yards (74 paces) east to the 400 foot stake. The first baseline stake, a 12" fencepost marked with browse tag #9014, is 400 feet to the north.



Map Name: Kyune

Township 12S, Range 9E, Section 18



Diagrammatic Sketch

UTM 4403236.223 N, 503161.821 E

DISCUSSION

Trend Study No. 16B-15 (30-1)

This study on Ford Ridge was established to monitor what was thought to be year-round elk range. Deer use is limited in most winters with an elevation of 8,700 feet. After 3 readings, this site will be discontinued in the future due to little or no use by big game. Pellet group transect data in 1999 indicate less than 1 deer day use/acre (2 ddu/ha) and just over 1 elk day use/acre (3 edu/ha). The open sage/grass ridge tops are windswept in winter, while the steep side hills bare off early, providing open country for winter elk use. Aspen stands in the draws and brushy east-facing slopes provide cover. The area is a checkerboard of private and BLM land used mainly for spring-to-fall cattle grazing. The study is located near the ridgeline with a northeast aspect and a slope of about 5%.

The soil is a moderately deep, clay texture with a slightly alkaline pH (7.4). Rock is fairly uniformly distributed throughout the profile as indicated by the estimated stoniness index. Erosion potential in the area is moderate to high as evidenced by washed-out roads and trails. Directly on the site, there is noticeable soil loss in the interspaces between shrubs. Percent bare ground increased in 1994, remaining nearly the same in 1999. Vegetation and litter cover both decreased in 1999, which could result in increased erosion in the future.

Mountain big sagebrush is the dominant browse providing 66% of the browse cover in 1999. During the 1988 reading, there were an estimated 11,066 sagebrush/acre, 89% of which were young plants. Seedling sagebrush numbered nearly 11,000 per acre indicating an expanding population. Since then the population has remained fairly stable with 10,500 plants/acre counted in 1994, and 11,440 in 1999. The population has become more mature with 86% and 79% of the population respectively consisting of mature plants in 1994 and 1999. Young plants make up only 13% and 7% of the population respectively in 1994 and 1999. The baseline was extended from 100 to 400 feet prior to reading in 1994. This larger sample better estimates browse densities which have clumped and/or discontinuous distributions, and would account for much of the changes in age class distribution of this big sagebrush population. Percent decadence increased from 2% in 1988 and 1994, to 14% in 1999. Fifty-nine percent of the decadent plants were classified as dying in 1999 which would point to a slightly declining population that may be thinning out. Vigor is mostly good and use light, with the majority of the mature plants showing good seed production in 1999. Twenty-two percent of the young plants encountered in 1988, displayed reduced vigor. Currently, all young plants display good vigor. Other shrubs present include snowberry, mountain low rabbitbrush, and a few serviceberry.

Herbaceous forage is an important element of this range. As with much of the Wasatch Plateau, the dominant grass species is Salina wildrye or bullgrass. Muttongrass is a preferred but less common species. Although large bunch grasses appear to dominate the site, there is still room for a variety of forbs. Seventeen species were encountered on the study area in 1994, and 21 in 1999. Forbs are an important component of deer and elk spring and summer diets, and preferred species like penstemon, milkvetches, and paintbrushes are important. Current use of herbaceous plants is light.

1994 TREND ASSESSMENT

Ground cover characteristics are similar to those of 1988. Relative percent cover of bareground has gone up slightly (22% to 26%) and litter has declined due to drought from 49% to 33%. However, vegetation and litter cover are abundant enough to stabilize the soil. Trend for soil is stable. The browse trend is stable currently, but the population has become increasingly mature (85%). Reproductive potential (proportion of young) has declined considerably due in large part to the dry conditions of the past several years. Vigor has improved and percent decadence is very low. Herbaceous trend is slightly down due to the drought. Four of the five perennial grasses on the site have declined significantly in their sum of nested frequency values. Several perennial forb species have also shown significant declines in their sum of nested frequency values.

TREND ASSESSMENT

soil - stable

browse - stable

herbaceous understory - slightly down

1999 TREND ASSESSMENT

Trend for soil is down due to decreases in both vegetation and litter cover. Bare ground remains high at 30%, and noticeable soil loss is occurring in the interspaces between shrubs. Trend for the key browse, mountain big sagebrush, is slightly down. Percent decadency increased from 2% to 14%, and the proportion of decadent plants classified as dying is high at 59%. With low recruitment and biotic potential, this species appears to be declining in the future. Trend for the herbaceous component is slightly up. The sum of nested frequency for perennial species increased in 1999, following a large decrease in 1994 due to drought. Very few annuals are present at this elevation.

TREND ASSESSMENT

soil - down

browse - slightly down for the key species, mountain big sagebrush

herbaceous understory - slightly up

HERBACEOUS TRENDS --

Herd unit 16B, Study no: 15

| Type | Species | Nested Frequency | | | Quadrat Frequency | | | Average Cover % | |
|-----------------------------|-------------------------------|------------------|------------------|------------------|-------------------|-----|-----|-----------------|------|
| | | '88 | '94 | '99 | '88 | '94 | '99 | '94 | '99 |
| G | Agropyron spicatum | _b 25 | _a 2 | _c 48 | 12 | 1 | 19 | .00 | .46 |
| G | Carex spp. | - | - | 3 | - | - | 1 | - | .03 |
| G | Elymus salina | _b 299 | _b 296 | _a 262 | 91 | 93 | 91 | 14.07 | 5.50 |
| G | Festuca ovina | 1 | 3 | 6 | 1 | 1 | 3 | .00 | .06 |
| G | Poa fendleriana | 117 | 84 | 92 | 54 | 42 | 43 | .93 | .62 |
| G | Poa pratensis | - | - | 2 | - | - | 1 | - | .00 |
| G | Stipa spp. | 15 | 6 | 8 | 5 | 3 | 4 | .06 | .07 |
| Total for Annual Grasses | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total for Perennial Grasses | | 457 | 391 | 421 | 163 | 140 | 162 | 15.08 | 6.75 |
| Total for Grasses | | 457 | 391 | 421 | 163 | 140 | 162 | 15.08 | 6.75 |
| F | Achillea millefolium | 56 | 46 | 56 | 22 | 20 | 24 | .25 | .93 |
| F | Antennaria rosea | _a - | _a - | _b 8 | - | - | 4 | - | .21 |
| F | Androsace septentrionalis (a) | - | 1 | 1 | - | 1 | 1 | .00 | .00 |
| F | Antennaria spp. | _b 24 | _b 9 | _a - | 10 | 4 | - | .44 | - |
| F | Arabis spp. | _b 9 | _a - | _{ab} 2 | 4 | - | 1 | - | .00 |
| F | Astragalus argophyllus | _b 22 | _a - | _a - | 11 | - | - | - | - |
| F | Astragalus convallarius | 12 | 19 | 14 | 5 | 8 | 8 | .09 | .09 |
| F | Astragalus coltoni | _b 16 | _c 37 | _a - | 7 | 21 | - | .25 | - |
| F | Astragalus tenellus | _a 27 | _b 56 | _c 83 | 13 | 29 | 38 | 1.34 | 1.34 |

| Type | Species | Nested Frequency | | | Quadrat Frequency | | | Average Cover % | |
|---------------------------|--------------------------|------------------|-----------------|-----------------|-------------------|-----|-----|-----------------|------|
| | | '88 | '94 | '99 | '88 | '94 | '99 | '94 | '99 |
| F | Aster spp. | - | - | 2 | - | - | 1 | - | .03 |
| F | Astragalus spp. | _a - | _a - | _b 22 | - | - | 12 | - | .21 |
| F | Castilleja flava | _b 34 | _a 19 | _a 18 | 18 | 9 | 13 | .12 | .24 |
| F | Calochortus nuttallii | 1 | 1 | - | 1 | 1 | - | .00 | - |
| F | Chaenactis douglasii | 26 | 10 | 28 | 12 | 4 | 13 | .07 | .11 |
| F | Comandra pallida | _a - | _{ab} 5 | _b 7 | - | 2 | 4 | .01 | .05 |
| F | Erigeron spp. | 4 | 4 | 5 | 2 | 4 | 3 | .02 | .04 |
| F | Eriogonum umbellatum | - | 1 | 1 | - | 1 | 1 | .00 | .03 |
| F | Holosteum umbellatum (a) | - | - | 2 | - | - | 1 | - | .00 |
| F | Hymenoxys richardsonii | _b 47 | _c 66 | _a 20 | 27 | 34 | 12 | .50 | .16 |
| F | Lygodesmia spp. | _a - | _a - | _b 12 | - | - | 6 | - | .06 |
| F | Machaeranthera canescens | 7 | 7 | 4 | 3 | 3 | 2 | .04 | .03 |
| F | Penstemon spp. | _a 1 | _b 7 | _a - | 1 | 6 | - | .08 | - |
| F | Penstemon watsonii | _b 92 | _a 41 | _b 81 | 47 | 20 | 39 | .28 | .91 |
| F | Phlox longifolia | _b 67 | _a 29 | _a 30 | 30 | 15 | 16 | .07 | .08 |
| F | Senecio multilobatus | 20 | 10 | 12 | 10 | 5 | 7 | .05 | .06 |
| F | Taraxacum officinale | _a 4 | _a - | _b 16 | 2 | - | 9 | - | .04 |
| Total for Annual Forbs | | 0 | 1 | 3 | 0 | 1 | 2 | 0.00 | 0.00 |
| Total for Perennial Forbs | | 469 | 367 | 421 | 225 | 186 | 213 | 3.64 | 4.66 |
| Total for Forbs | | 469 | 368 | 424 | 225 | 187 | 215 | 3.64 | 4.67 |

Values with different subscript letters are significantly different at $\alpha = 0.10$

BROWSE TRENDS --

Herd unit 16B, Study no: 15

| Type | Species | Strip Frequency | | Average Cover % | |
|------------------|--|-----------------|-----|-----------------|-------|
| | | '94 | '99 | '94 | '99 |
| B | Amelanchier utahensis | 7 | 6 | .18 | - |
| B | Artemisia frigida | 1 | 0 | .03 | - |
| B | Artemisia tridentata vaseyana | 98 | 96 | 14.56 | 12.23 |
| B | Chrysothamnus depressus | 1 | 1 | - | - |
| B | Chrysothamnus viscidiflorus viscidiflorus | 92 | 82 | 4.85 | 2.97 |
| B | Mahonia repens | 5 | 1 | .45 | .03 |
| B | Opuntia spp. | 1 | 1 | .00 | .00 |
| B | Symphoricarpos oreophilus | 57 | 50 | 3.65 | 3.26 |
| B | Tetradymia canescens | 0 | 2 | .15 | .00 |
| Total for Browse | | 262 | 239 | 23.88 | 18.51 |

BASIC COVER --

Herd unit 16B, Study no: 15

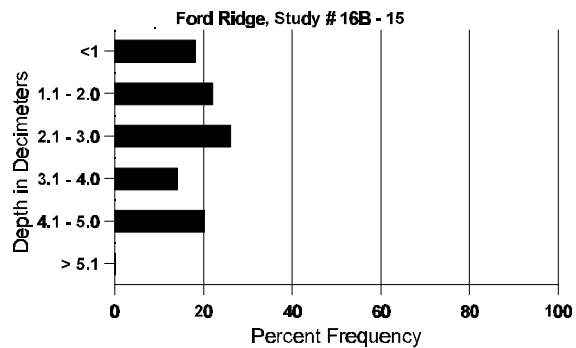
| Cover Type | Nested Frequency | | Average Cover % | | |
|-------------|------------------|-----|-----------------|-------|-------|
| | '94 | '99 | '88 | '94 | '99 |
| Vegetation | 335 | 329 | 9.25 | 39.45 | 31.47 |
| Rock | 248 | 190 | 8.50 | 9.01 | 5.87 |
| Pavement | 252 | 254 | 11.25 | .82 | 4.77 |
| Litter | 396 | 374 | 48.75 | 39.74 | 30.96 |
| Cryptogams | 9 | 25 | 0 | .16 | .29 |
| Bare Ground | 333 | 314 | 22.25 | 30.53 | 30.12 |

SOIL ANALYSIS DATA --

Herd Unit 16B, Study # 15, Study Name: Ford Ridge

| Effective rooting depth (inches) | Temp °F (depth) | pH | %sand | %silt | %clay | %OM | PPM P | PPM K | dS/m |
|----------------------------------|-----------------|-----|-------|-------|-------|-----|-------|-------|------|
| 15.2 | 46.0 (16.2) | 7.4 | 26.4 | 31.1 | 42.6 | 3.9 | 10.2 | 201.6 | 1.2 |

Stoniness Index



PELLET GROUP DATA --

Herd unit 16B, Study no: 15

| Type | Quadrat Frequency | | Pellet Transect Days Use/Acre (ha) |
|--------|-------------------|-----|------------------------------------|
| | '94 | '99 | |
| Rabbit | 14 | 2 | n/a |
| Elk | 4 | - | 1 (2) |
| Cattle | 1 | 2 | 15 (37) |
| Deer | 0 | 0 | 1 (2) |
| Sheep | 0 | 0 | 2 (5) |

BROWSE CHARACTERISTICS --

Herd unit 16B, Study no: 15

Field unit 10B, Study no. 15

| A Y G R E | Form Class (No. of Plants) | | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|----------------------------|---------------------|---|---|------------------|---|---|-------------------|---|---|----------------|-----|-----|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Amelanchier utahensis | | | | | | | | | | | | | | | | | | |
| Y | 88 | 4 | - | 3 | - | - | - | - | - | - | 5 | - | 2 | - | 466 | | 7 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| | 99 | 1 | - | - | - | - | - | - | - | - | - | - | 1 | - | 20 | | 1 | |
| M | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 94 | 8 | 2 | - | 1 | - | - | - | - | - | 11 | - | - | - | 220 | 17 26 | 11 | |
| | 99 | - | - | 1 | 1 | - | - | - | - | - | 2 | - | - | - | 40 | 21 21 | 2 | |
| D | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 99 | 2 | 3 | 1 | - | - | - | - | - | - | 3 | - | - | 3 | 120 | | 6 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 00% | | | 43% | | | 29% | | | -48% | | | | | | | |
| '94 | | 17% | | | 00% | | | 00% | | | -25% | | | | | | | |
| '99 | | 33% | | | 22% | | | 44% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 466 | Dec: | 0% | | | |
| | | | | | | | | | | | | '94 | 240 | | 0% | | | |
| | | | | | | | | | | | | '99 | 180 | | 67% | | | |
| Artemisia frigida | | | | | | | | | | | | | | | | | | |
| M | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | 7 6 | 1 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '99 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 20 | | - | | | |
| | | | | | | | | | | | | '99 | 0 | | - | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|----|---|------------------|---|---|-------------------|---|---|----------------|-----|-------|------|--------------------|--------------------------------|-----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Artemisia tridentata vaseyana | | | | | | | | | | | | | | | | | | |
| S | 88 | 123 | - | - | 8 | - | - | 32 | - | - | 158 | - | 5 | - | 10866 | | 163 | |
| | 94 | 4 | - | - | - | - | - | - | - | - | 4 | - | - | - | 80 | | 4 | |
| | 99 | 8 | - | - | 2 | - | - | - | - | - | 10 | - | - | - | 200 | | 10 | |
| Y | 88 | 132 | 6 | - | 8 | - | - | 1 | - | - | 111 | 4 | 32 | - | 9800 | | 147 | |
| | 94 | 66 | - | - | - | - | - | - | - | - | 66 | - | - | - | 1320 | | 66 | |
| | 99 | 38 | 3 | - | - | - | - | - | - | - | 41 | - | - | - | 820 | | 41 | |
| M | 88 | 10 | 4 | 2 | - | - | - | - | - | - | 8 | 1 | 7 | - | 1066 | 14 | 19 | |
| | 94 | 449 | - | - | - | - | - | - | - | - | 448 | 1 | - | - | 8980 | 10 | 19 | |
| | 99 | 353 | 93 | 3 | - | 2 | - | - | - | - | 451 | - | - | - | 9020 | 12 | 24 | |
| D | 88 | 2 | - | 1 | - | - | - | - | - | - | 1 | - | 2 | - | 200 | | 3 | |
| | 94 | 9 | 1 | - | - | - | - | - | - | - | 3 | - | - | 7 | 200 | | 10 | |
| | 99 | 69 | 8 | - | 1 | 2 | - | - | - | - | 33 | - | - | 47 | 1600 | | 80 | |
| X | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 60 | | 3 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 180 | | 9 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 06% | | | 02% | | | 25% | | | - 5% | | | | | | | |
| '94 | | .19% | | | 00% | | | 01% | | | + 8% | | | | | | | |
| '99 | | 19% | | | .52% | | | 08% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 11066 | Dec: | 2% | | | |
| | | | | | | | | | | | | '94 | 10500 | | 2% | | | |
| | | | | | | | | | | | | '99 | 11440 | | 14% | | | |
| Chrysothamnus depressus | | | | | | | | | | | | | | | | | | |
| M | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | 3 | 12 | |
| | 99 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | 3 | 11 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | + 0% | | | | | | | |
| '99 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 20 | | - | | | |
| | | | | | | | | | | | | '99 | 20 | | - | | | |

| A G R E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|---|---|----------------|-----|------|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Chrysothamnus viscidiflorus viscidiflorus | | | | | | | | | | | | | | | | | | |
| S | 88 | 8 | - | - | - | - | - | 2 | - | - | 10 | - | - | - | 666 | | 10 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| Y | 88 | 48 | 4 | - | - | - | - | - | - | - | 51 | - | 1 | - | 3466 | | 52 | |
| | 94 | 10 | - | - | - | - | - | - | - | - | 10 | - | - | - | 200 | | 10 | |
| | 99 | 10 | - | - | - | - | - | - | - | - | 10 | - | - | - | 200 | | 10 | |
| M | 88 | 73 | 5 | - | 2 | - | - | - | - | - | 80 | - | - | - | 5333 | 7 | 9 | |
| | 94 | 360 | - | - | - | - | - | - | - | - | 360 | - | - | - | 7200 | 7 | 11 | |
| | 99 | 234 | - | - | 2 | - | - | - | - | - | 236 | - | - | - | 4720 | 8 | 11 | |
| D | 88 | 18 | - | - | - | - | - | - | - | - | 18 | - | - | - | 1200 | | 18 | |
| | 94 | 6 | - | - | - | - | - | - | - | - | 6 | - | - | - | 120 | | 6 | |
| | 99 | 34 | - | - | 5 | - | - | - | - | - | 14 | - | - | 25 | 780 | | 39 | |
| X | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 20 | | 1 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 06% | | | 00% | | | .66% | | | -25% | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | -24% | | | | | | | |
| '99 | | 00% | | | 00% | | | 09% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 9999 | Dec: | 12% | | | |
| | | | | | | | | | | | | '94 | 7520 | | 2% | | | |
| | | | | | | | | | | | | '99 | 5700 | | 14% | | | |
| Mahonia repens | | | | | | | | | | | | | | | | | | |
| Y | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 94 | 4 | - | - | - | - | - | - | - | - | 4 | - | - | - | 80 | | 4 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| M | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | |
| | 94 | 92 | - | - | - | - | - | - | - | - | 92 | - | - | - | 1840 | 4 | 5 | |
| | 99 | 3 | - | - | - | - | - | - | - | - | 3 | - | - | - | 60 | 3 | 5 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | -97% | | | | | | | |
| '99 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '94 | 1920 | | - | | | |
| | | | | | | | | | | | | '99 | 60 | | - | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|----|---|------------------|---|---|-------------------|---|---|----------------|-----|------|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Opuntia spp. | | | | | | | | | | | | | | | | | | |
| S | 88 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 133 | | 2 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| Y | 88 | 4 | - | - | - | - | - | - | - | - | 4 | - | - | - | 266 | | 4 | |
| | 94 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| M | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | |
| | 94 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | 2 | 8 | |
| | 99 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | 1 | 4 | |
| D | 88 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 133 | | 2 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 99 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 00% | | | 00% | | | 00% | | | -85% | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | -67% | | | | | | | |
| '99 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 399 | Dec: | 33% | | | |
| | | | | | | | | | | | | '94 | 60 | | 0% | | | |
| | | | | | | | | | | | | '99 | 20 | | 0% | | | |
| Symphoricarpos oreophilus | | | | | | | | | | | | | | | | | | |
| S | 88 | 8 | - | - | - | - | - | 5 | - | - | 13 | - | - | - | 866 | | 13 | |
| | 94 | - | - | - | 1 | - | - | - | - | - | 1 | - | - | - | 20 | | 1 | |
| | 99 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 40 | | 2 | |
| Y | 88 | 33 | 2 | 1 | - | - | - | 3 | - | - | 33 | - | 6 | - | 2600 | | 39 | |
| | 94 | 9 | - | - | 1 | - | - | - | - | - | 10 | - | - | - | 200 | | 10 | |
| | 99 | 14 | - | - | 4 | - | - | - | - | - | 15 | - | 3 | - | 360 | | 18 | |
| M | 88 | 14 | 4 | 4 | - | - | - | - | - | - | 11 | - | 11 | - | 1466 | 12 | 18 | |
| | 94 | 98 | 11 | - | 4 | - | - | - | - | - | 113 | - | - | - | 2260 | 11 | 25 | |
| | 99 | 57 | 3 | - | 3 | - | - | - | - | - | 61 | - | 2 | - | 1260 | 12 | 26 | |
| D | 88 | 5 | - | - | - | - | - | - | - | - | 1 | - | 4 | - | 333 | | 5 | |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 99 | 7 | - | - | 1 | - | - | - | - | - | 1 | - | 2 | 5 | 160 | | 8 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 09% | | | 08% | | | 32% | | | -44% | | | | | | | |
| '94 | | 09% | | | 00% | | | 00% | | | -28% | | | | | | | |
| '99 | | 03% | | | 00% | | | 13% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '88 | 4399 | Dec: | 8% | | | |
| | | | | | | | | | | | | '94 | 2460 | | 0% | | | |
| | | | | | | | | | | | | '99 | 1780 | | 9% | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|---|---|----------------|---|-----|----|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Tetradymia canescens | | | | | | | | | | | | | | | | | | |
| M | 88 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 66 | 11 | 15 | 1 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 6 | 9 | 0 |
| | 99 | 3 | - | - | - | - | - | - | - | - | 3 | - | - | - | 60 | - | - | 3 |
| D | 88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 99 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | | 1 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '88 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '94 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '99 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | | '88 | 66 | Dec: | 0% | | |
| | | | | | | | | | | | | | '94 | 0 | | 0% | | |
| | | | | | | | | | | | | | '99 | 80 | | 25% | | |